

| | | | | | |
|------------------------------------------------------------------------------|-----|-----|-----|-----|-----|
| 11 | 20 | 29 | 38 | 47 | 56 |
| 5' TGCAG ATT GGT TGG GGC AGC CCG GGG AGG CTG GCT CCG ACA CAC GAC TGA GTG TGC | | | | | |
| 65 | 74 | 83 | 92 | 101 | 110 |
| CTA CAC TGG TCC CAC AGG TTT TCA GCT GTG GAG TTT GGG ATC TGA GCT TGG AGC | | | | | |
| 119 | 128 | 137 | 146 | 155 | 164 |
| CCA TTT GTT TCT GGC AGT TCC GCT CAT ATT TTC CAC TTG AAG ACA TCG CCT CCC | | | | | |
| 173 | 182 | 191 | 200 | 209 | 218 |
| TTC CTT CCA AGC TGG GAG ACC AGA AGT CAA CAA CAG GAG GGT GGA GAG GCC GGG | | | | | |
| 227 | 236 | 245 | 254 | 263 | 272 |
| TCT CAC AAT CCG CTT GGC TGG GGA GTC CAC TGA GGT TCT TGC ATC CTG AAG CAA | | | | | |
| 281 | 290 | 299 | 308 | 317 | 326 |
| ACC ATG GAG AGC TGG TGG GGA CTT CCC TGT CTT GCG TTC CTG TGT TTT CTA ATG | | | | | |
| M E S W W G L P C L A F L C F L M | | | | | |
| 335 | 344 | 353 | 362 | 371 | 380 |
| CAC GCC CGA GGT CAA AGA GAC TTT GAT TTG GCA GAT GCC CTT GAT GAC CCT GAA | | | | | |
| H A R G Q R D F D L A A D A L D D P E | | | | | |
| 389 | 398 | 407 | 416 | 425 | 434 |
| CCC ACC AAG AAG CCA AAC TCA GAT ATC TAC CCA AAG CCA AAA CCA CCT TAC TAC | | | | | |
| P T K K P N S D I Y P K P K P P Y Y | | | | | |

FIGURE 1A

| | | | | | |
|-------------------------------------------------------------------------|-----|-----|-----|-----|-----|
| 443 | 452 | 461 | 470 | 479 | 488 |
| CCA CAG CCC GAG AAT CCC GAC AGC GGT GGA AAT ATC TAC CCA AGG CCA AAG CCA | | | | | |
| P Q P E N P P D S G G N I Y P R P K P | | | | | |
| 497 | 506 | 515 | 524 | 533 | 542 |
| CGC CCT CAA CCC CAG CCT GGC AAT TCC GGC AAC AGT GGA GGT TAC TTC AAT GAT | | | | | |
| R P Q P Q P P G N S G N S S G G Y F N D | | | | | |
| 551 | 560 | 569 | 578 | 587 | 596 |
| GTG GAC CGT GAT GAC GGA CGC TAC CCG CCC AGG CCA CCG CCG CCT GCA | | | | | |
| V D R D D G G R Y P P R P R P P P A | | | | | |
| 605 | 614 | 623 | 632 | 641 | 650 |
| GGA GGT GGC GGC GGT GGC TAC TCC AGT TAT GGC AAC TCC GAC AAC ACG CAC GGA | | | | | |
| G G G G G G Y S S Y G N S D N T H G | | | | | |
| 659 | 668 | 677 | 686 | 695 | 704 |
| AGA GGG GGC TAT AGA CCC AAC TCT CGT TAT GGA AAT ACT TAT GGT GGA GAT CAC | | | | | |
| R G G Y R P N S R Y G N T Y G G D H | | | | | |
| 713 | 722 | 731 | 740 | 749 | 758 |
| CAT TCA ACG TAT GGC AAT CCA GAA GGC AAT ATG GTA GCA AAA ATC GTG TCT CCC | | | | | |
| H S T Y G N P E G N M V A K I V S P | | | | | |
| 767 | 776 | 785 | 794 | 803 | 812 |
| ATC GTA TCC GTG GTG GTG ACA CTG CTG GGA GCA GCA GCC AGT TAT TTC AAA | | | | | |
| I V S V V V V T L L G A A A S Y F K | | | | | |

FIGURE 1B

| | | | | | |
|-------------|-------------|-------------|-------------|-------------|---------|
| 821 | 830 | 839 | 848 | 857 | 866 |
| CTA AAC AAT | AGG AGA AAT | TTC AGG ACC | CAT GAA CCA | GAA AAT GTC | TGA AGA |
| L N N | R R N | F R T | H E P | E N V | |
| 875 | 884 | 893 | 902 | 911 | 920 |
| TGT TAA GAT | CCC CTG ATT | ACT TTG GGA | AAA ACA ACT | AAA ACA ACC | GTG TTT |
| 929 | | | | | |
| ATC AAA AAA | AAA AAA 3' | | | | |

FIGURE 1C

| | | |
|-----|------------------------------------------------------|------------|
| 1 | MESWGLPCLAFLCFLMHARGQRDFDLADA | 2297891 |
| 1 | MESWGLPCLAFLCFLMHARGQRDFDLADA | GI 2499136 |
| 31 | LDDPEPTKKPNSDIYPKKPPYYPQPENPD | 2297891 |
| 31 | LDDPEPTKKPNSDIYPKKPPYYPQPENPD | GI 2499136 |
| 61 | SGGNIYP RP K P R P Q P Q P G N S G N S G G Y F N D V | 2297891 |
| 61 | SGGNIYP RP K P R P Q P Q P G N S G N S G G Y F N D V | GI 2499136 |
| 91 | DRDDGRYP RP R P R P P A G G G G G Y S S Y G N S | 2297891 |
| 91 | DRDDGRYP RP R P R P P A G G G G G Y S S Y G N S | GI 2499136 |
| 121 | DNTHGRGGYRPN S R Y G N T Y G G D H H S T Y G N P | 2297891 |
| 121 | DNTHG-----GDHHS TYGNP | GI 2499136 |
| 151 | EGNMVAKIVSPIVSVVVVTL L G A A S Y F K L | 2297891 |
| 136 | EGNMVAKIVSPIVSVVVVTL L G A A S Y F K L | GI 2499136 |
| 181 | N N R R N C F R T H E P E N V | 2297891 |
| 166 | N N R R N C F R T H E P E N V | GI 2499136 |

FIGURE 2

5' GAGAG AAT AGC TAC AGA TTC TCC ATC CTC AGT CTT TGC AAG GCG ACA GCT GTG CCA 56

11 20 29 38 47

65 74 83 92 101 110

GCC GGG CTC TGG CAG GCT CCT GGC AGC ATG GCA GTG AAG CTT GGG ACC CTC CTG

119 128 137 146 155 164

CTG GCC CTT GCC CTG GGC CTG GCC CAG CCA GCC TCT GCC CGC AAG CTG CTG

L A L A L G L A Q P A S A R K L L

173 182 191 200 209 218

GTG TTT CTG CTG GAT GGT TTT CGC TCA GAC TAC ATC AGT GAT GAG GCG CTG GAG

V F L L D G G F R S D Y I S D E A L E

227 236 245 254 263 272

TCA TTG CCT GGT TTC AAA GAG ATT GTG AGC AGG GGA GTA AAA GTG GAT TAC TTG

S L P G G F K E I V S R G V K V D Y L

281 290 299 308 317 326

ACT CCA GAC TTC CCT AGT CTC TCG TAT CCC AAT TAT TAT ACC CTA ATG ACT GGC

T P D F P S L S Y P N Y Y T L M T G

335 344 353 362 371 380

CGC CAT TGT GAA GTC CAT CAG ATG ATC GGC AAC TAC ATG TGG GAC CCC ACC ACC

R H C E V H Q M I G N Y M W D P T T

FIGURE 3A

| | | | | | | | | | | | |
|-----|-------------------------------------|-----|-------------|-----|-------------|-----|-------------|-----|-------------|-----|-------------|
| 389 | AAC AAG TCC | 398 | TTT GAC ATT | 407 | GGC GTC AAC | 416 | AAA GAC AGC | 425 | CTA ATG CCT | 434 | CTC TGG TGG |
| | N K S F D I G V N K D S L M P L W | | | | | | | | | | |
| 443 | GGA TCA GAA | 452 | CCT CTG TGG | 461 | GTC ACT CTG | 470 | ACC AAG GCC | 479 | AAA AGG AAG | 488 | GTC TAC |
| | N G S E P L W V T L T K A K R K V Y | | | | | | | | | | |
| 497 | TAC TGG CCA | 506 | GGC TGT GAG | 515 | GTT GAG GTT | 524 | ATT CTG GGT | 533 | GTC AGA CCC | 542 | ACC TAC |
| | M Y Y W P G C E V E I L G V P T Y | | | | | | | | | | |
| 551 | GAA TAT AAA | 560 | AAT GTC CCA | 569 | ACG GAT ATC | 578 | AAT TTT | 587 | GCC AAT | 596 | GTC AGC |
| | C L E Y K N V P T D I N F A N A V S | | | | | | | | | | |
| 605 | GCT CTT GAC | 614 | TTC AAG AGT | 623 | GGC CGG | 632 | GAC GGC | 641 | GCA GGC | 650 | ATA TAC |
| | D A L D S F K S G R A D L A I Y H | | | | | | | | | | |
| 659 | GAG CGC | 668 | GTG GAA GGC | 677 | CAC CAC | 686 | CCT GCA | 695 | TCT CCG | 704 | CAG AGG |
| | E R I D V E G H H Y G P A S P Q R K | | | | | | | | | | |
| 713 | GCC CTC | 722 | GTA GAC ACT | 731 | GTC CTG | 740 | AAG TAC | 749 | ACC AAG | 758 | TGG ATC |
| | D A L K A V D T V L K Y M T K W I Q | | | | | | | | | | |

FIGURE 3B

| | | | | | |
|-------------------------------------------------------------------------|-------------------------------------|------|------|------|------|
| 767 | 776 | 785 | 794 | 803 | 812 |
| GAG CGG GGC CTG CAG GAC CGC CTG AAC GTC ATT ATT TTC TCG GAT CAC GGA ATG | E R G L Q D R L N V I I F S D H G M | | | | |
| 821 | 830 | 839 | 848 | 857 | 866 |
| ACC GAC ATT TTC TGG ATG GAC AAA GTG ATT GAG CTG AAT AAG TAC ATC AGC CTG | T D I F W M D K V I E L N K Y I S L | | | | |
| 875 | 884 | 893 | 902 | 911 | 920 |
| AAT GAC CTG CAG CAA GTG AAG GAC CGC GGG CCT GTT GTG AGC CTT TGG CCG GCC | N D L Q Q V K D R G P V V S L W P A | | | | |
| 929 | 938 | 947 | 956 | 965 | 974 |
| CCT GGG AAA CAC TCT GAG ATA TAT AAC AAA CTG AGC ACA GTG GAA CAC ATG ACT | P G K H S E I Y N K L S T V E H M T | | | | |
| 983 | 992 | 1001 | 1010 | 1019 | 1028 |
| GTC TAC GAG AAA GAA GCC ATC CCA AGC AGG TTC TAT TAC AAG AAA GGA AAG TTT | V Y E K E A I P S R F Y Y K K G K F | | | | |
| 1037 | 1046 | 1055 | 1064 | 1073 | 1082 |
| GTC TCT CCT TTG ACT TTA GTG GCT GAT GAA GGC TGG TTC ATA ACT GAG AAT CGA | V S P L T L V A D E G W F I T E N R | | | | |
| 1091 | 1100 | 1109 | 1118 | 1127 | 1136 |
| GAG ATG CTT CCG TTT TGG ATG AAC AGC ACC GGC AGG CCG GAA GGT TGG CAG CGT | E M L P F W M N S T G R R E G W Q R | | | | |

FIGURE 3C

| | | | | | |
|-------------------------------------------------------------------------|------|------|------|------|------|
| 1145 | 1154 | 1163 | 1172 | 1181 | 1190 |
| GGA TGG CAC GGC TAC GAC AAC GAG CTC ATG GAC ATG CGG GGC ATC TTC CTG ACT | | | | | |
| G W H G G Y D N E L M D M R G I F L T | | | | | |
| 1199 | 1208 | 1217 | 1226 | 1235 | 1244 |
| CTC GGA CCT GGT AGG CGA GGA AAT GAC CAG ATG CTC TCA GAC CCC ATT CCC AAG | | | | | |
| L G P G R G R G N D Q M L S D P I P K | | | | | |
| 1253 | 1262 | 1271 | 1280 | 1289 | 1298 |
| GAA GTG TCT CTA AGG GGC CCT ACG GGT GCC AGG AGA GGC TGC AGG GAT TTC CTC | | | | | |
| E V S L R G G P T G A R R G C R D F L | | | | | |
| 1307 | 1316 | 1325 | 1334 | 1343 | 1352 |
| ACA GAC CCT CTT TAT GAG CCA AGC AGA GCA AAC CCA GCC GGT CTC CAT GAA ACA | | | | | |
| T D P L Y E P S R A N P A G L H E T | | | | | |
| 1361 | 1370 | 1379 | 1388 | 1397 | 1406 |
| TCT TTT GCT GGC TTC CTT TCA AAT GCT TCT TGG GTT TGG CAA ATG TAG CCA AAT | | | | | |
| S F A G F L S N A S W V W Q M | | | | | |
| 1415 | 1424 | 1433 | | | |
| ACT GTG CCG TGT AAA TTT TAA ATC CTG CAG CA 3' | | | | | |

FIGURE 3D

27 L V F L L D G F R S D Y I S D - E A L E S L P G F K E I V S 2705267
 161 L L F S L D G F R A E Y L H T W G G L - - L P V I S K L K K G I 189650

 56 R G V K V D Y L T P D F P S L S Y P N Y Y T L M T G R H C E 2705267
 189 C G T Y T K N M R P V Y P T K T F P N H Y S I V T G L Y P E G I 189650

 86 V H Q M I G N Y M W D P T T N K S F D I G V N K D S L M P L 2705267
 219 S H G I I D N K M Y D P K M N A S F S L K - S K E K F N P E G I 189650

 116 W W N G S E P L W V T L T K A K R K V Y M Y Y W P G C E V E 2705267
 248 W Y K G - E P I W V T A K Y Q G L K S G T F F W P G S D V E G I 189650

 146 I L G V R P T Y C L E Y K N V P T D I N F A N A V S D A L D 2705267
 277 I N G I F P D I - - Y K M Y N G S V P F E E R I L A V L Q G I 189650

 176 S F - - - K S G R A D L A A I Y H E R I D V E G H H Y G P A 2705267
 304 W L Q L P K D E R P H F Y T L Y L E P D S S G H S Y G P V G I 189650

 203 S P Q R K D A L K A V D T V L K Y M T K W I Q E R G L Q D R 2705267
 334 S S E V I K A L Q R V D G M V G M L M D G L K E L N L H R C G I 189650

FIGURE 4A

| | | |
|-----|-------------------------------------------------------------|-----------|
| 233 | L N V I I F S D H G M T D I F W M D K V I E L N K Y I S L N | 2705267 |
| 364 | L N L I L I S D H G M E Q G - S C K K Y I Y L N K Y - - L G | GI 189650 |
| 263 | D L Q Q V K D R - G P V V S L W P A - - P G K H - - - - S | 2705267 |
| 391 | D V K N I K V I Y G P A A R L R P S D V P D K Y Y S F N Y E | GI 189650 |
| 285 | E I Y N K L S T V E - - - H M T V Y E K E A I P S R F Y Y K | 2705267 |
| 421 | G I A R N L S C R E P N Q H F K P Y L K H F L P K R L H F A | GI 189650 |
| 312 | K G K F V S P L T L V A D E G W F I T E N R E M L P F W M N | 2705267 |
| 451 | K S D R I E P L T F Y L D P Q W Q L A - - - - - L N | GI 189650 |
| 342 | S T G R R E G W Q R G W H G Y D N E L M D M R G I F L T L G | 2705267 |
| 472 | P S E R K Y C - G S G F H G S D N V F S N M Q A L F V G Y G | GI 189650 |
| 372 | P G - R R G N D | 2705267 |
| 501 | P G F K H G I E | GI 189650 |

FIGURE 4B